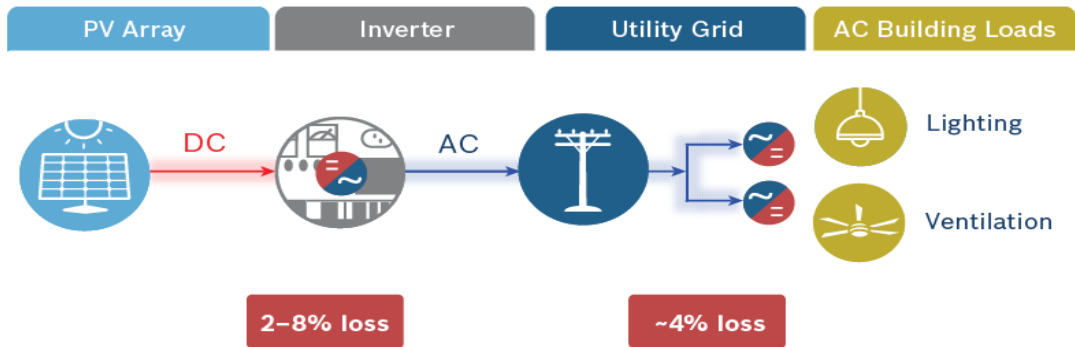


## Overview of Bosch DC Microgrid System

- Customers can expect:
- 7-10% increase in PV utilization
  - 6-8% increase in round trip efficiency from energy storage
  - Reduced impact of grid outages
  - Higher reliability
  - Greater reduction in GHG emissions

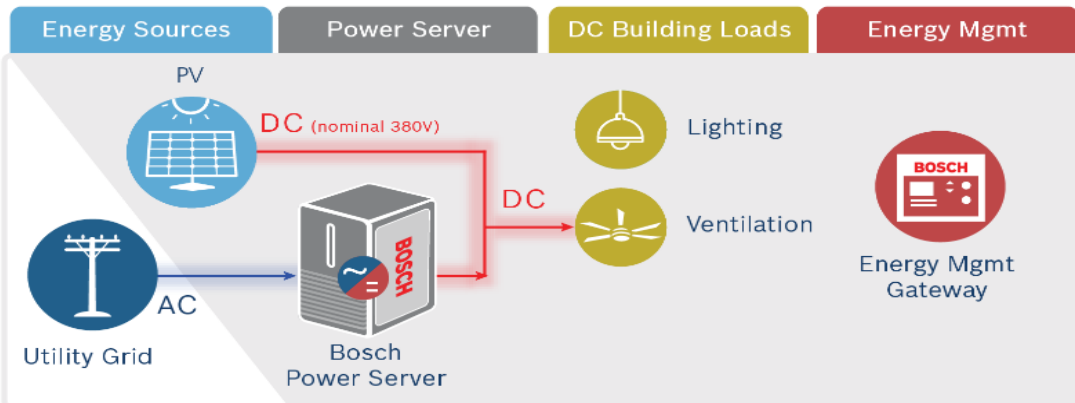
- Energy storage used for peak shaving, demand reduction, and energy management

Conventional AC System



vs.

Bosch DC System

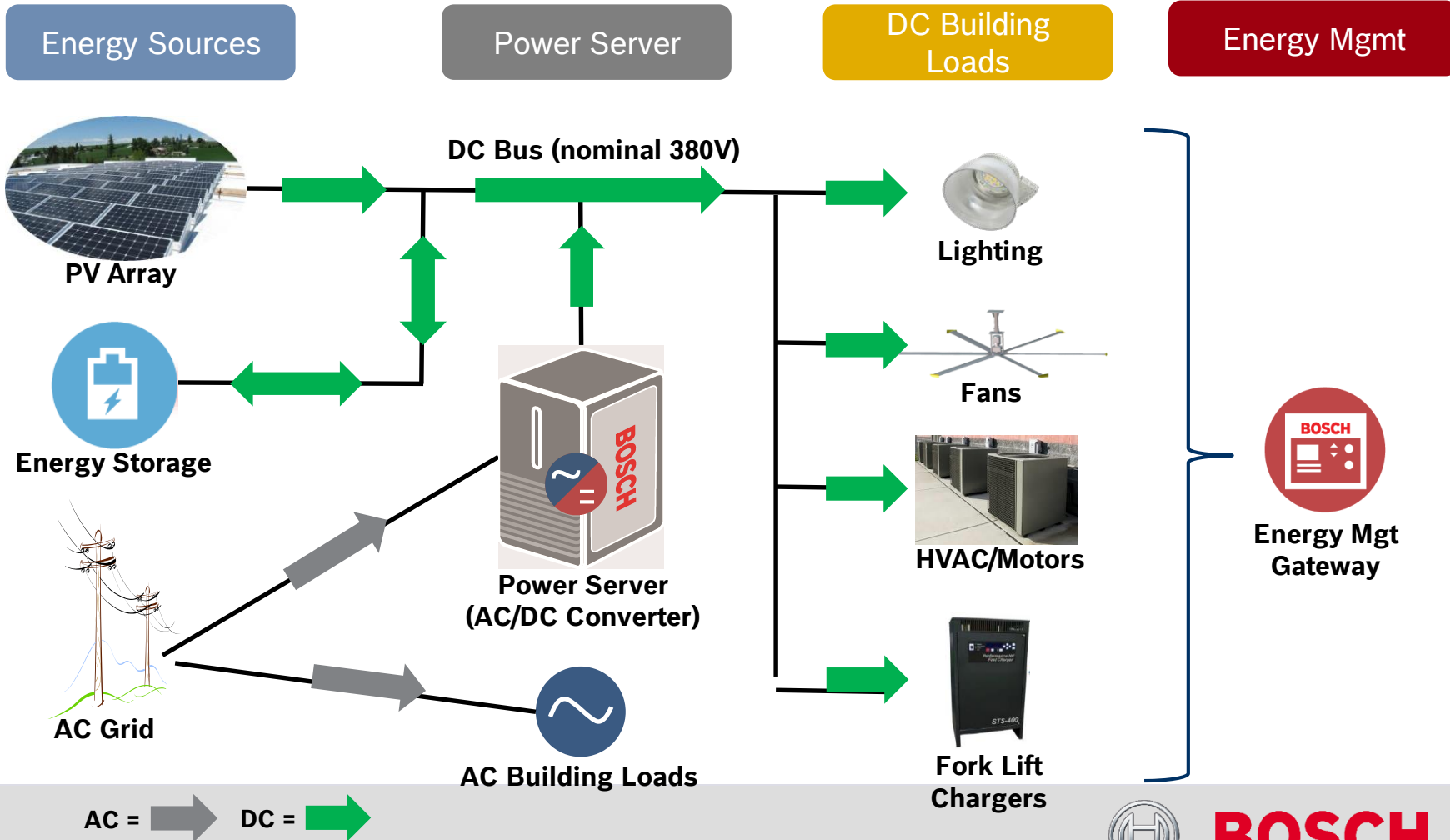


\*Total Cost of Ownership



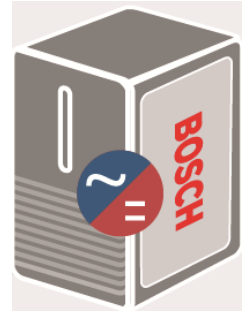
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## Bosch DC Microgrid Configuration (Non-Export)



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# Load Impact of Bosch DC Microgrid System



- Converting certain AC loads to be more efficient DC loads
- Power Server capacity sized no larger than total converted DC loads
- Building load created by DC microgrid is limited by Power Server capacity
- Net load is decreased during peak hours
  - DC Loads powered by PV during peak hours
  - Energy storage configured to only be charged by the PV system during peak hours
  - No facility upgrades required
- Example:
  - Existing AC Load to be converted= 100 kW → Converted DC Load = 90 kW
  - Power Server Capacity = 90 kW
  - Energy Storage Capacity = 120 kW
  - **Maximum DC microgrid system load at anytime = 90 kW**



# Bosch Storage Load Proposal

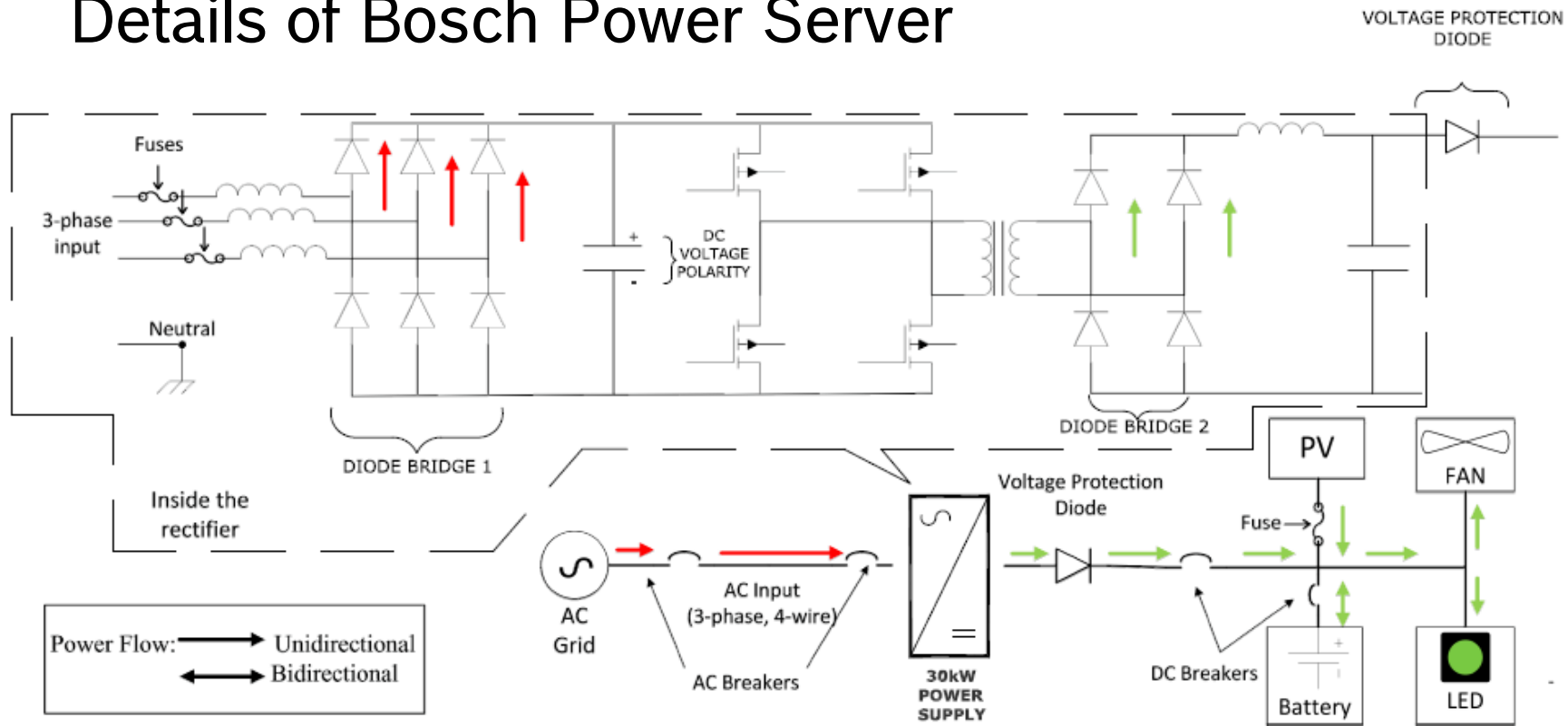
- ➔ Interconnection approval should not be required for BTM/NE\* Storage where export is a physical impossibility
  - Technical review is unnecessary
- ➔ Rule 21 should not impose new review burdens or costs on storage projects that would not otherwise apply
  - Determine the minimum threshold for applying storage load review
- ➔ Rule 21 storage load review should not apply to charging solely from BTM generation sources
  - Clearly distinguish between charging from the grid and charging from BTM generation sources

\* Behind the meter non-exporting



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## Details of Bosch Power Server



- ➔ Includes rectifier circuits that only allow one way flow (AC ➡ DC) using diodes
- ➔ Additional protection in place to ensure no reverse current to flow

